

## Clean Energy Systems Mendota Class VI Project

### UIC Class VI Regulations Background

- In December 2010, EPA published federal requirements under the Underground Injection Control (UIC) Program for Class VI wells (final Class VI Rule). Class VI wells are used to inject carbon dioxide (CO<sub>2</sub>) into deep rock formations. This long-term underground storage is called geologic sequestration (GS).
- Class VI well requirements are designed to protect underground sources of drinking water (USDWs) and address GS well siting, construction, operation, testing, monitoring, and closure. EPA developed specific criteria for Class VI wells including:
  - Extensive site characterization requirements
  - Injection well construction requirements for materials that are compatible with and can withstand contact with CO<sub>2</sub> over the life of a GS project
  - Injection well operation requirements
  - Comprehensive monitoring requirements that address all aspects of well integrity, CO<sub>2</sub> injection and storage, and ground water quality during the injection operation and the post-injection site care period
  - Financial responsibility requirements assuring the availability of funds for the life of a GS project (including post-injection site care and emergency response)
  - Reporting and recordkeeping requirements that provide project-specific information to continually evaluate Class VI operations and confirm USDW protection
- The regulations address the unique nature of CO<sub>2</sub> injection for GS, including the relative buoyancy of CO<sub>2</sub>, subsurface mobility, corrosivity in the presence of water, and the large injection volumes anticipated at GS projects.

### CES Mendota Project Overview

- California Energy Systems (CES) proposes to convert a former biomass power plant located in Mendota, California into a carbon negative energy (CNE) plant. The Mendota CNE plant gasifies local biomass wastes to produce syngas, which is then used to produce renewable hydrogen and electricity. The CO<sub>2</sub> produced during the electricity generation will be captured and injected underground via a Class VI well for geologic sequestration.
- In February 2020, CES applied for one UIC Class VI permit for one injection well to be located in Mendota, California. The City of Mendota is located in San Joaquin Valley of California, about 160 miles southeast of San Francisco.
- The anticipated CO<sub>2</sub> mass to be captured and injected at the project is 350,000 tons/year over a period of twelve years (4.2 million tons total) to 20 years (7 million tons total).

## Current EPA Review Status

- R9 received the CES Class VI permit application on February 18, 2020.
- R9 determined the permit application to be administratively complete on March 20, 2020 and began the technical evaluation of the proposed GS injection project.
- On August 19, 2020, R9 provided CES with the first set of technical evaluation comments, which pertained to the site characterization information submitted as part of the permit application. CES will need to provide clarification or additional information where requested to demonstrate that the project will be protective of USDWs in order to receive a UIC Class VI Permit to Construct.
- R9 is preparing three more sets of technical evaluation comments on various sections of the application:
  - Comments on Financial Responsibility, and Emergency & Remedial Response Plan (expected early October)
  - Comments on Area of Review Modeling, and Operating Procedure (expected early October)
  - Comments on Testing & Monitoring Plan, and Construction & Plugging Plan (expected mid-October)